



**U.S. Army Research Institute
for the Behavioral and Social Sciences**

Research Report 1797

**Enhancing Officer Candidate School (OCS)
Enrollment in the Army National Guard (ARNG)**

Monte D. Smith
L-3 Communications

Joseph D. Hagman
U.S. Army Research Institute

October 2002

Approved for public release; distribution is unlimited.

20030108 118

**U.S. Army Research Institute
for the Behavioral and Social Sciences**

A Directorate of the U.S. Total Army Personnel Command

**ZITA M. SIMUTIS
Acting Director**

Research accomplished under contract
for the Department of the Army

L-3 Communications

Technical review by

Harry S. Gilman, Army National Guard Individual Training Branch
Mark Leonard, Army National Guard Individual Training Branch

NOTICES

DISTRIBUTION: Primary distribution of this Research Report has been made by ARI. Please address correspondence concerning distribution of reports to: U.S. Army Research Institute for the Behavioral and Social Sciences, Attn: TAPC-ARI-PO, 5001 Eisenhower Ave., Alexandria, VA 22333-5600.

FINAL DISPOSITION: This Research Report may be destroyed when it is no longer needed. Please do not return it to the U.S. Army Research Institute for the Behavioral and Social Sciences.

NOTE: The findings in this Research Report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.

REPORT DOCUMENTATION PAGE

1. REPORT DATE (dd-mm-yy) October 2002		2. REPORT TYPE Final		3. DATES COVERED (from. . . to) January 2002 – August 2002	
4. TITLE AND SUBTITLE Enhancing Officer Candidate School (OCS) Enrollment in the Army National Guard (ARNG)				5a. CONTRACT OR GRANT NUMBER DASW01-98-D-0047	
				5b. PROGRAM ELEMENT NUMBER 633007	
				5c. PROJECT NUMBER A792	
				5d. TASK NUMBER 219	
6. AUTHOR(S) Monte D. Smith (L-3 Communications) and Joseph D. Hagman (U.S. Army Research Institute)				5e. WORK UNIT NUMBER CO2	
7. PERFORMING ORGANIZATION L-3 Communications Link Simulation & Training Division (LSTD) 13665 Dulles Technology Dr., Suite 350 Herndon, VA 20171				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY U.S. Army Research Institute for the Behavioral and Social Sciences 5001 Eisenhower Avenue ATTN: TAPC-ARI-ID Alexandria, VA 22333-5600				10. MONITOR ACRONYM ARI	
				11. MONITOR REPORT NUMBER Research Report 1797	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.					
13. SUPPLEMENTARY NOTES Contracting Officer's Representative: Joseph D. Hagman					
14. ABSTRACT (Maximum 200 words): This research examined why ARNG state OCS attendance is dropping, and what can be done about it. Standard Installation/Division Personnel System (SIDPERS) records were used to determine how many pay grade E4-8 soldiers (i.e., Specialist/Corporal through First/Master Sergeant) currently meet OCS enrollment eligibility requirements. Results indicated that of the four (out of a total of eight) objective eligibility requirements documented in SIDPERS, the age limit of 30 has the greatest negative impact. Almost 60% of the soldiers in the total sample, and more than 90% of those in pay grades E6-E8, are simply too old to apply. To determine the impact of eligibility requirements not documented in SIDPERS, a nationwide survey of E4-8 ARNG soldiers was conducted. Results from the completed surveys of 500 respondents revealed that only 5.5% meet all eight objective OCS eligibility requirements. Based on both survey responses, and SIDPERS data, ten recommendations are proposed for enhancing ARNG state OCS enrollment through the use of more targeted recruitment, better incentives, and revised eligibility criteria.					
15. SUBJECT TERMS Army National Guard Officer Candidate School					
SECURITY CLASSIFICATION OF			19. LIMITATION OF ABSTRACT Unclassified	20. NUMBER OF PAGES	21. RESPONSIBLE PERSON (Name and Telephone Number) Joseph D. Hagman 208-334-9390
16. REPORT Unclassified	17. ABSTRACT Unclassified	18. THIS PAGE Unclassified			

Research Report 1797

Enhancing Officer Candidate School (OCS) Enrollment in the Army National Guard (ARNG)

**Monte D. Smith
L-3 Communications**

**Joseph D. Hagman
U.S. Army Research Institute**

**Reserve Component Training Research Unit
Linnea Ruth, Chief**

**U.S. Army Research Institute for the Behavioral and Social Sciences
5001 Eisenhower Avenue, Alexandria, Virginia 22333-5600**

October 2002

**Army Project Number
2O363007A792**

**Personnel, Performance
and Training**

Approved for public release; distribution is unlimited.

FOREWORD

Each year the Army National Guard (ARNG) loses about 2,300 company-grade officers (i.e., Second Lieutenants [2LTs], First Lieutenants [1LTs], and Captains [CPTs]) through attrition and about 600 CPTs through promotion to the rank of Major. This combination of attrition and promotion has resulted in the ARNG having close to 6,000 company-grade officers less than what it needs, as of July 2001.

Of the four ways available for replenishing officer resources (i.e., Reserve Officers Training Corps [ROTC], direct commissioning, transfer from the Active Component [AC], and Officer Candidate School [OCS]), the National Guard Bureau (NGB) has identified a lower than usual state OCS enrollment rate as a primary cause of the current officer shortfall. As a result, NGB asked the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) to help determine why state ARNG OCS enrollment is dropping, and what can be done about it. This report contains our answers to these two questions.

The work (a) was conducted by ARI's Reserve Component Training Research Unit (RCTRU), whose mission is to improve the effectiveness and efficiency of RC training, and (b) is supported under the Work Package "Tools for Maximizing Active/Reserve Component (AC/RC) Unit Performance" of ARI's Science and Technology Program for Fiscal Year 2002.

NGB sponsored this research under a continuing Memorandum of Understanding initially signed 12 June 1985. Findings have been presented to Chief, Army National Guard Individual Training Branch, NGB-ART-I.



STEPHEN L. GOLDBERG
Acting Technical Director

ENHANCING OFFICER CANDIDATE SCHOOL (OCS) ENROLLMENT IN THE ARMY NATIONAL GUARD (ARNG)

EXECUTIVE SUMMARY

Research Requirement:

Determine why ARNG state OCS attendance is dropping, and what can be done about it.

Procedure:

Standard Installation/Division Personnel System (SIDPERS) records were examined for 212,437 ARNG enlisted soldiers with a pay grade of E4-8 (i.e., Specialist/Corporal through First/Master Sergeant) to determine how many met objective OCS eligibility requirements. A nationwide survey was also mailed to 2,500 randomly selected, E4-8, ARNG enlisted soldiers to determine the impact of those eligibility requirements not documented in SIDPERS.

Findings:

The age requirement was found to have the greatest impact on OCS eligibility. Almost 60% of all E4-8 soldiers, and 90% of E6-8 soldiers, were older than 30 and, therefore, ineligible for OCS. The minimum education requirement of 90 semester hours had the next largest impact on eligibility. When all eight objective OCS eligibility requirements were considered, only 5.5% of ARNG E4-8 soldiers qualified on all criteria.

Use of Findings:

Ten recommendations were made on how to expand the size of the state OCS eligibility pool without unduly compromising current standards. These recommendations focused on three areas: (1) more targeted recruitment, (2) improved incentives, and (3) revised eligibility criteria, including an increased age limit and development of a streamlined program for senior NCOs. Increasing the current OCS age limit from 30 to 35 years, for example, would have the greatest impact on the OCS eligibility pool, increasing its size by 54%.

ENHANCING OFFICER CANDIDATE SCHOOL (OCS) ENROLLMENT IN THE ARMY NATIONAL GUARD (ARNG)

CONTENTS

	Page
INTRODUCTION	1
Investigative Overview	1
INVESTIGATION 1: SIDPERS ANALYSIS	2
METHOD	2
RESULTS	3
Eligibility Pool	3
OCS Eligibility Requirements	3
OCS Disqualification Rates	4
Combined Effect of ASVAB GT, Age, APFT, and Citizenship	6
Effects of Modifying Current Standards	6
DISCUSSION	6
INVESTIGATION 2: NATIONAL SURVEY OF E4-E8 ENLISTED PERSONNEL	7
METHOD	7
Procedure	8
RESULTS	8
Participants	8
OCS Eligibility Requirements	11
OCS Disqualification Rates	11
Estimating Overall OCS Eligibility	12
Effects of Modifying Current Standards	12
Personal Barriers to OCS Attendance	13
OCS Awareness	14
Soldier Preferences for OCS Program Options	14
OCS Recruitment Efforts	15
Evaluation of Previously Recommended Proposals	17

CONTENTS (continued)

	Page
DISCUSSION AND RECOMMENDATIONS	20
Targeted Recruitment	21
Improved Incentives	22
Revised Eligibility Criteria	22
REFERENCES	24
APPENDIX A: MAIL QUESTIONNAIRE	A-1
APPENDIX B: STATE (OR TERRITORY) OR RESIDENCE	B-1

LIST OF TABLES

Table 1. E4-E8 ARNG Soldiers with ASVAB GT Scores on Record	3
2. OCS Eligibility Requirements	4
3. ARNG Soldiers with ASVAB GT Scores of < 110	4
4. Proportion of ARNG Soldiers \geq 30 Years of Age	5
5. Source of Age-Eligible Soldiers	5
6. Effects on Eligibility Pool of Modifying Current Standards	7
7. Pay Grade Profile of Eligible and Potentially Eligible Soldiers	8
8. Age Profile of Eligible and Potentially Eligible Soldiers	9
9. ARNG Mail Survey Return Rates (from Smith, 1998)	9
10. Pay Grade Profile of Participating Soldiers	11
11. Age Profile of Participating Soldiers	11
12. OCS Eligibility Requirements Not Documented in SIDPERS	12
13. Personal Barriers to OCS Attendance	14
14. Preference Points for Currently Available OCS Programs	15

CONTENTS

	Page
15. Recommended Incentives for Attracting Qualified OCS Candidates	16
16. Proposals Endorsed by Survey Participants	17
17. Proposals Rejected by Survey Participants	20

LIST OF FIGURES

Figure 1. Endorsement of Student Loan Repayment Proposal by Pay Grade	18
2. Endorsement of Commissioning Bonus Proposal by Pay Grade	19
3. Endorsement of a Streamlined OCS Program for Senior NCOs	19
4. Endorsement of the Proposal to Commission NCOs as 1LTs After OCS	20

ENHANCING OFFICER CANDIDATE SCHOOL (OCS) ENROLLMENT IN THE ARMY NATIONAL GUARD (ARNG)

Introduction

The attrition rate of Army National Guard (ARNG) company-grade officers (i.e., Second Lieutenants [2LTs], First Lieutenants [1LTs], and Captains [CPTs]) is approximately 2,300 annually (Headquarters, Department of the Army, 2002a). This continuing loss of company-grade officers is compounded by another 600 CPTs who are promoted to the rank of Major (MAJ) each year. The combination of attrition and promotion has produced a serious shortage of officers. As of 1 July 2001, the Standard Installation/Division Personnel System (SIDPERS) showed that the ARNG had 5,900 fewer company-grade officers than it requires (Headquarters, Department of the Army, 2002b).

Replenishment of company-grade ARNG officer resources can be accomplished in any of four ways (Dillon, 1999). These four replenishment methods, and the number of new ARNG officers commissioned annually via each method, are: (1) Reserve Officers Training Corps (ROTC), which contributes approximately 320 new officers, (2) State Academy Officer Candidate Schools (OCS), with 950 new officers, (3) direct commissioning, with 270 officers, and (4) transfer from the Active Component (AC), which historically contributes 840 new ARNG officers annually. In recent years, however, even the combination of all these sources has failed to provide the number of needed company-grade officers.

Senior ARNG National Guard Bureau (NGB) staff members, charged with oversight of officer training programs, have attributed the cause of the officer shortfall primarily to an unexplained reduction in the OCS attendance rate among ARNG enlisted soldiers (Gilman, 2001). This report summarizes the findings of an investigation designed to determine why OCS attendance is dropping, and what can be done about it.

Investigative Overview

This investigation used a multi-tiered approach. The first step was to identify the principal source of OCS candidates, examine their characteristics, and compare these characteristics against objective OCS eligibility requirements to gain an idea of the adequacy of the resource pool. To begin, consultations were held with NGB representatives to identify the enlisted ranks from which OCS candidates are most likely to be successfully recruited. Then, a literature review was conducted to identify and list objective OCS admissions criteria such as age, education, test scores, and physical fitness requirements (Headquarters, Department of the Army, 1983; 1985; 1995). Other OCS admissions requirements of a more subjective nature also exist, such as recommendations from NCOs and unit commanders and possession of good moral character, but initially the focus was on identifying objective admissions criteria, determining which of these criteria were contained in SIDPERS, and systematically determining if soldiers in the resource met or exceeded the criteria. For example, General Technical Aptitude Test (GT) scores from the Armed Services Vocational Aptitude Battery (ASVAB) are required for OCS admission and are contained within the SIDPERS database. Third, SIDPERS records were examined to determine

the proportion of soldiers in each prime recruitment rank who met or exceeded each admissions requirement contained in the database.

Not all the identified objective OCS admissions criteria are contained in SIDPERS. Number of completed college semester hours, a key requirement for OCS admissions, is an example. ARNG soldiers are continuously upgrading their education, and these accomplishments are not regularly entered into the database, or at least are not entered with sufficient regularity to produce reliable analyses. In order to assess the extent to which the minimum semester hours requirement affects decisions to attend OCS, as well as to assess the effects of other barriers to OCS attendance that are not documented in the records, a custom questionnaire was designed and administered to a national random sample of eligible and potentially eligible soldiers. Information from this questionnaire also permitted the assessment of soldier attitudes concerning OCS attendance and the identification of changes in the OCS program that might be implemented in order to attract more OCS candidates.

Consistent with the sequential manner in which the two investigations were conducted, and the different research methodologies they employed, separate results sections will be presented for the SIDPERS and questionnaire data. The SIDPERS analysis was conducted first, and in fact its results were used to "fine tune" the final version of the mail questionnaire sent to the nationally representative sample of ARNG soldiers. Accordingly, SIDPERS results will be presented first in this report, followed by a short discussion, and then by questionnaire results. A concluding Discussion and Recommendations section integrates findings from both investigations.

Investigation 1: SIDPERS Analysis

Method

According to NGB,¹ OCS has most often successfully recruited new officer candidates from Pay Grades E4 through E8. (E4 = Specialist/Corporal [CPL]; E5 = Sergeant [SGT]; E6 = Staff Sergeant [SSG]; E7 = Sergeant First Class [SFC]; E8 = First/Master Sergeant [1SG/MSG]) Enlisted soldiers in these five Pay Grades, according to the consultants, were considered most likely to possess that combination of experience and leadership potential that can be molded and developed into the professional skill set that results in good officers. Accordingly, the ARNG SIDPERS database was examined to determine how many soldiers were registered in each pay grade, how many OCS eligibility requirements were documented in SIDPERS, what proportion of soldiers (at each E4-E8 pay grade) met or exceeded minimum OCS eligibility requirement, and finally, what proportion of soldiers met all the eligibility requirements documented in SIDPERS.

¹ Mr. Harry Gilman and Mr. Cal Washispack provided extensive advice and counsel regarding current OCS policies, eligibility requirements, administrative procedures for submitting and processing OCS applications, distinctions between and among alternative OCS programs, and the procedure for appointing OCS graduates as commissioned officers in the ARNG.

Results

Eligibility Pool

An examination of SIDPERS indicated that at the time of the investigation, 212,437 ARNG E4-E8 soldiers were listed in the database with a valid ASVAB GT score on record.² Table 1 shows how the 212,437 soldiers were distributed across the five pay grades. Almost half the identified soldiers were E4s; slightly more than a quarter were E5s, and the top three pay grades (E6-E8) accounted for less than a quarter of potential OCS candidates. Top NCO pay grades were sparsely populated. Less than 2% of the identified soldiers were E8s, and when combined the two top pay grades accounted for less than 10% of potential candidates.

Table 1
*E4-E8 ARNG Soldiers with
ASVAB GT Scores on Record*

Pay Grade	Number	%
E4	104,962	49.4 %
E5	58,935	27.7 %
E6	30,360	14.3 %
E7	14,447	6.8 %
E8	3,733	1.8 %
Total	212,437	100.0 %

OCS Eligibility Requirements

Eight objective OCS eligibility requirements were identified. These requirements are listed in the first column of Table 2. The second column in Table 2 lists the minimum OCS performance criterion for each eligibility requirement. The age limit of 30 specified in the table refers to age at the time of commissioning. At the time of admission to OCS, an age limit of 29 yr and 6 mos is the operative norm. A score of 180 is the minimum passing score on the Army Physical Fitness Test (APFT). Citizenship and the minimum number of college semester hours (or semester hour equivalents) must be achieved and properly documented at the time of commissioning. The required English Comprehension Level Test (ECLT) is required only of candidates whose primary language is other than English. Qualifying Scholastic Aptitude Test (SAT) or American College Test (ACT) scores must have been acquired within 6 yr of the time of commissioning.

² Analysis of the SIDPERS database was conducted with the cooperation of personnel from NGB. Special thanks are extended to Bill Friese, NGB SETA support, ASM Research, without whose cooperation this phase of the investigation could not have been completed.

Table 2
OCS Eligibility Requirements

Eligibility Requirement	Performance Criterion	% Disqualified
ASVAB GT	≥ 110	60.1 %
Age	< 30	58.7 %
APFT	≥ 180	28.2 %
Citizenship	Yes	1.0 %
Semester Hours	≥ 90	
Clean Record	Yes	
ECLT	≥ 80	
SAT or ACT	≥ 850 or ≥ 19	

OCS Disqualification Rates

Based upon SIDPERS records, the percentage of E4-E8 ARNG soldiers failing to meet the minimum performance criterion for each eligibility requirement is listed in the third column of Table 2. (SIDPERS does not contain data pertaining to college semester hours, ECLT, or SAT/ACT test scores. Information concerning arrests and convictions is controlled and was not accessible to the investigators.) Disqualification rates in Column 3 sum to more than 100% because single individuals may be disqualified on multiple eligibility requirements.

ASVAB GT Scores. The first entry in Column 3 of Table 2 (60.1%) reflects the proportion of E4-E8 ARNG soldiers currently in SIDPERS who failed to attain a score of at least 110 on the ASVAB GT. The ASVAB GT is a test of general mental ability, roughly equivalent to an IQ test. The required score of 110 is considered the minimum acceptable level of general mental ability that will ensure effective functioning as an officer and a leader. Among current ARNG E4-E8 soldiers, the minimum ASVAB GT score of 110 excludes all but the top 40% of enlisted E4-E8 personnel. Table 3 shows that Corporals (E4s) are most adversely affected by this eligibility requirement.

Table 3
ARNG Soldiers with ASVAB GT Scores of < 110

Pay Grade	% Disqualified
E4	64.4 %
E5	57.8 %
E6	54.0 %
E7	53.0 %
E8	52.3 %

Age. Table 2 also shows that 58.7% of potentially eligible ARNG soldiers were 30 or more years of age, and hence disqualified from OCS consideration on that basis. Table 4 shows the proportion of soldiers ≥ 30 years of age at each pay grade. All E8s, almost all E7s, and over 90%

of E6s in the database were 30 or older, and hence ineligible for OCS. Moreover, almost three-fourths of E5s were over 30. Only at the lowest pay grade examined, E4, did a majority (65%) of soldiers qualify on the basis of age. Table 4 also presents mean age by pay grade. Consistent with the proportional results above, only Corporals were, on average, less than 30 years old. Both E7s and E8s, on the other hand, were (on average) over 40.

Table 4
Proportion of ARNG Soldiers \geq 30 Years of Age

Pay Grade	% \geq 30	Mean Age
E4	35.0 %	28.0
E5	72.1 %	34.9
E6	90.5 %	38.4
E7	98.9 %	41.4
E8	100.0 %	44.4
Total	58.7 %	32.6

Table 5 transforms the data in Table 4 by focusing on soldiers who are age-eligible (i.e., under 30 years of age). The numbers in Column 2 and the percentages in Column 3 are based on the total number ($N = 87,687$) of E4-E8s in the database who were < 30 years of age. When displayed in this manner, it becomes obvious that age-eligible soldiers are primarily (96.6%) confined to the E4 and E5 pay grades. Very few senior NCOs (E6-E8) are OCS eligible, based upon age alone.

Table 5
Source of Age-Eligible Soldiers

Pay Grade	Number	%	Cum %
E4	68,190	77.8 %	77.8 %
E5	16,469	18.8 %	96.6 %
E6	2,876	3.3 %	99.8 %
E7	152	0.2 %	100.0 %
E8	0	0.0 %	100.0 %
Total	87,687	100.1 %	100.0 %

Army Physical Fitness Test (APFT). Table 2 shows that 28.2% of soldiers did not have a passing APFT on record. This figure includes 2.9% of soldiers with no entry whatsoever in the APFT data field, as well as 25.3% with scores less than the minimum passing score of 180. The majority (72.5%) of soldiers with scores less than 180, however, had "zero" scores on record. It is highly unlikely that zeroes represented valid APFT test scores, and much more likely that they represented the absence of an actual test score. It could not be determined if these zero test scores were the result of failure to take the test, or if soldiers had been tested but their test scores had not been added to the SIDPERS database. In any event, 28.2% of soldiers did not have a passing APFT test score on record.

Citizenship. SIDPERS indicates that one in a hundred (1%) E4-E8 ARNG soldiers are not citizens. It appears from OCS regulations that non-citizens are allowed to apply to OCS and to

participate in the program, but citizenship is a requirement for commissioning as a United States Army officer.

Combined Effect of ASVAB GT, Age, APFT, and Citizenship

Table 2 shows that 60.1% of potentially eligible soldiers were disqualified by ASVAB GT scores, 58.7% by age, 28.2% by missing or substandard APFT scores, and 1% due to a lack of US citizenship. The combined effect of these four OCS eligibility requirements was to reduce the overall recruitment pool from 212,437 to 23,865, or 11.2% of the original. Moreover, the 11.2% residual does not factor in the effect of Semester Hours, SAT or ACT, Felony Records, or lack of command of the English Language. These latter variables were not contained in SIDPERS, but are OCS eligibility requirements. The OCS eligibility pool will be further reduced when these variables are factored into the equation.

Effects of Modifying Current Standards

As shown in Table 6, size of the OCS potential eligibility pool can be increased through modification of one or more of the current eligibility requirements. Figures in the first row of Table 6, which show the number of currently available OCS-eligible candidates, serve as the baseline for the remainder of the table. Each row in the table illustrates what happens when one eligibility criterion is modified while all others are held at their current levels. For example, lowering the ASVAB GT standard from its current level of 110 to 105 while all other criteria are held at current levels would expand the eligibility pool from its current 23,865 to 30,773, an increase of 28.9%. Raising the age ceiling produces a steady expansion of the eligibility pool, approximately 11% for each year the ceiling is raised, resulting in an expansion of 54.1% when the limit is raised from 30 to 35. Table 6 also shows the effect of changing two eligibility criteria at once. The last row in the table tests the effects of simultaneously raising the age limit to 35 and reducing the ASVAB GT qualifying score to 105. The combined effect would almost double the eligibility pool. Eliminating the citizenship requirement, on the other hand, would negligibly increase the candidate pool.

Changes in the APFT standard deserve a special note. Lowering the minimum qualifying score from 180 to 150 would increase the eligibility pool by 5%. This is probably an underestimate of the impact of lowering the APFT standard, however, due to the presence in the database of so many soldiers with zero APFT scores. Eliminating the APFT altogether, for example, would expand the eligibility pool from the current 23,865 to 34,823, an increase of 45.9%. The 10,958 additional soldiers consist of 1,196 (5% increase over the currently qualified 23,865) with APFT scores between 150 and 179, plus another 9,762 (40.9% increase) with APFT scores of zero.

Discussion

When the SIDPERS records of enlisted personnel in Pay Grades E4-E8 were examined, only 11.2% met the first four eligibility requirements (minimum ASVAB GT of 110, under age 30, passing APFT test score, and citizenship) of the ARNG OCS program. This figure overstates the

proportion of ARNG soldiers qualifying for OCS due to the fact that SIDPERS does not contain data pertaining to all OCS eligibility requirements. For example, SIDPERS does not contain reliable records on completed college course and accumulated numbers of semester hours. Neither are SAT or ACT scores include in the database. Nor does SIDPERS have the potential for identifying personal and psychological barriers to OCS attendance. To gain a better understanding of these barriers to OCS attendance, as well as to gain insight into what changes might successfully expand the available pool of OCS candidates, a survey of ARNG personnel in the target E4-E8 pay grades was needed.

Table 6
Effects on Eligibility Pool of Modifying Current Standards

Base = 212,437	Eligible Soldiers	%	% Increase
Current Standards	23,865	11.2	
Lower ASVAB to 105	30,773	14.5	28.9 %
Raise Age to 31	26,449	12.4	10.8 %
Raise Age to 32	29,199	13.7	22.4 %
Raise Age to 33	31,844	15.0	3.4 %
Raise Age to 34	34,452	16.2	44.4 %
Raise Age to 35	36,778	17.3	54.1 %
Lower APFT to 150	25,061	11.8	5.0 %
Drop Citizenship	24,083	11.3	0.9 %
Lower ASVAB to 105 and Raise Age to 35	47,186	22.2	97.7 %

Investigation 2: National Survey of ARNG E4-E8 Enlisted Personnel

Method

With advice and input from NGB consultants, a custom survey instrument was designed to accomplish the following objectives: (1) estimate the proportion of potentially eligible OCS candidates who fail to meet OCS eligibility requirements that are not documented in SIDPERS, (2) identify other (e.g., personal and psychological) barriers to OCS attendance and assess their importance, (3) identify measures that will effectively promote OCS attendance among qualified ARNG soldiers, (4) identify proposals that are unlikely to effectively promote OCS attendance, and (5) accumulate a sufficient knowledge base to permit the derivation of data-based recommendations.

It was decided that the survey instrument (see Appendix A) should be administered to a random sample of OCS-eligible and potentially eligible E4-E8 ARNG soldiers. OCS-eligible was

defined as soldiers meeting or exceeding the four objective OCS eligibility requirements documented in SIDPERS (citizen soldiers under age 30 with ASVAB GT scores ≥ 110 and APFT scores ≥ 180). Potentially eligible soldiers were defined as citizen soldiers under age 35 with ASVAB GT ≥ 105 and APFT scores ≥ 180 . Thus, potential eligibility was created by modifying eligibility requirements along age and ASVAB GT dimensions to include slightly older soldiers (age 30-34) and/or soldiers with slightly lower ASVAB GT scores (105-109).

Procedure

SIDPERS records indicated that 47,186 E4-E8 soldiers were either eligible or potentially eligible for OCS enrollment. Table 7 shows their pay grade profile and Table 8 summarizes their age data. Eligible and potentially eligible soldiers resided in all 50 states, the District of Columbia, Guam, Puerto Rico, and the Virgin Islands (Appendix B).

Table 7
Pay Grade Profile of Eligible and Potentially Eligible Soldiers

Pay Grade	<i>N</i>	%	Cumulative %
E4	25,530	54.1 %	54.1 %
E5	13,819	29.3 %	83.4 %
E6	6,119	13.0 %	96.4 %
E7	1,605	3.4 %	99.8 %
E8	116	0.2 %	100.0 %
Total	47,186	100.0 %	100.0 %

From the 47,186 identified eligible and potentially eligible soldiers, a sample of 2,500 was selected using the Statistical Package for the Social Sciences (SPSS, 1999) random sampling algorithm. This algorithm assures that every member of the identified population (eligible and potentially eligible soldiers) has an equal probability of inclusion in the sample. Each member of the sample was mailed a questionnaire bearing the Army Research Institute logo, along with a cover letter from NGB explaining the purpose of the investigation and asking for cooperation. Participation was voluntary. Questionnaires were mailed First Class to ensure prompt delivery. Postage-paid return envelopes were provided for the convenience of participating soldiers.

Results

Participants

Obtained Return Rate. Five hundred questionnaires had been returned within 6 wks of mailing, at which time data entry was stopped and data analyses begun. Questionnaires continued to arrive after the cut-off date. A total of $N = 527$ completed questionnaires (21.1%) were received and another $N = 85$ (3.4%) were returned as undeliverable. Thus, $N = 612$ questionnaires (24.5%) were either completed and returned or returned as undeliverable. Adjusted for undeliverable questionnaires, the return rate of 21.1% increased to 21.8% (527/2418).

Table 8
Age Profile of Eligible and Potentially Eligible Soldiers

Pay Grade	N	Mean	SD
E4	25,530	25.3	3.9
E5	13,819	28.4	3.7
E6	6,119	30.4	3.0
E7	1,605	32.2	1.7
E8	116	33.1	0.9
Total	47,186	27.1	4.3

Expected Return Rate. Previous research has shown that questionnaire return rates from ARNG soldiers vary according to pay grade. In a mail survey that included both officers and enlisted personnel (Smith, 1996), Lieutenants and senior NCOs returned questionnaires at substantially higher rates than junior NCOs or soldiers in pay grades E1-E4. Smith's return rates are shown in Table 9. While his results cannot be applied directly to the current investigation because they combined rates for some pay grades (and neither officers nor E1-E3 pay grades were included in the current survey), his data nonetheless can be used to establish a range of expected return rates against which the return rate in the current survey can be compared to determine its adequacy. By applying Smith's E1-E4 rate to E4s in the present investigation, a conservative estimated return rate can be obtained. Alternatively, by applying his E5-E6 rate to E4s in the present investigation, an optimistic estimated return rate can be obtained. Thus, we can apply an expected return rate of 45.2% for E7s and E8s, an expected rate of 20.4% for E5s and E6s, and either 20.4% or 9.4% for E4s. When this approach is combined with the present sample's pay grade composition (E4 = 54.1%, E5 = 29.3%, E6 = 13.0%, E7 = 3.4%, E8 = 0.2%), an expected return rate of between 13.7% and 19.7% is obtained. The obtained return rate of 21.8% compares favorably with this estimated range, slightly exceeding the upper boundary of expected returns. It should be noted that the current survey included several steps designed to boost the return rate, including professionally printed outgo and return envelopes, that were not incorporated in the Smith investigation. These small steps may explain the somewhat higher than expected return rate in the present investigation.

Table 9
ARNG Mail Survey Return Rates (from Smith, 1998)

Pay Grade	# Mailed	Not Deliverable	Adjusted Base	Adjusted Returns	Return Rate
Officers	168	13	155	55	35.5%
E7-E8	107	3	104	47	45.2%
E5-E6	400	22	378	77	20.4%
E1-E4	200	20	180	17	9.4%
Total	875	58	817	196	24.0%

Statistical Reliability. Reliability in the context of survey research refers to the confidence with which one can interpret an obtained sample result, usually expressed as a proportion, p . For example, if 82% of surveyed soldiers say they intend to re-enlist, one might reasonably ask how reliable is that result. The answer to such questions is couched in terms of confidence intervals, which are based on formulas found in most comprehensive statistical references (e.g., Hays, 1963; Neter, Wasserman & Whitmore, 1978). Technically, the issue is one of constructing an interval estimate for the population proportion, P , based on the obtained sample outcome, p . For any sample proportion, p , its confidence interval is a function of three parameters: (1) sample size, (2) the specific value of p , and (3) percentiles of the F distribution, available in standard statistical reference works (e.g., Hays, 1963; Box, Hunter & Hunter, 1978). With all other factors held constant, larger samples are preferable to smaller samples because sample size appears as the denominator in the formula used to estimate population variance. Accordingly, larger samples produce smaller confidence intervals, all other factors held constant. Confidence intervals are wider for proportional values at or near 50%, and smaller as the proportion under consideration moves farther into either tail of the potential outcome distribution (i.e., toward 0% or 100%). The standard procedure in reporting survey results is to calculate a single confidence interval, applicable to a 50% outcome, and then apply that interval to all results in the study, with the knowledge that if it applies with 95% confidence to a 50% outcome it will apply with at least 95% confidence to any other possible outcome. That practice will be followed in this investigation as well. With $N = 500$, the 95% confidence interval for a 50% outcome is $\pm 4.4\%$. With any p more or less than 50%, we can have at least 95% confidence that its confidence interval is no more than $\pm 4.4\%$.

Geographic Response Patterns. To guarantee anonymity and encourage frank responses, participants were not required to identify themselves on their returns. Most returns, however, carried legible postmarks (379 of 500 returns) and from these data it was possible to assess geographic return patterns. Legibly postmarked returns were received from 49 of the 50 states (excluding only Maine) plus the District of Columbia and Puerto Rico. Geographic profiles of returns, the outgo mailing, and eligible and potentially eligible soldiers can be examined in Appendix B.

Other Participant Characteristics. Pay grade and age profiles of participants (Tables 10 and 11, respectively) were comparable to pay grade and age profiles of eligible and potentially eligible soldiers from whom the sample was drawn (Tables 7 and 8, respectively). Participants reported an average of 6.88 years of Reserve Component service and 45.2% reported a prior tour of duty in the Active Component (mean length = 4.24 years). One quarter of participants (24.7%) reported they were college graduates. Participants were 85.2% male, with an average age of 27.85 years. Most respondents (89.3%) reported they were aware of OCS and its training purpose, and 71.6% said that while serving in the ARNG they had thought about applying for OCS and becoming an officer.

Table 10
Pay Grade Profile of Participating Soldiers

Pay Grade	N	%
E4	217	43.8%
E5	158	31.9%
E6	93	18.8%
E7	25	5.0%
E8	3	0.6%
Total	496	100.0%

Table 11
Age Profile of Participating Soldiers

Pay Grade	N	Mean Age	SD
E4	215	25.1	4.1
E5	155	29.1	3.7
E6	91	30.0	3.8
E7	25	32.2	1.7
E8	3	33.7	0.6
Total	493	27.9	4.6

OCS Eligibility Requirements

It will be recalled from Investigation 1 that eight objective OCS eligibility requirements were identified, four of which were found in SIDPERS. Only 11.2% of all E4-E8 soldiers qualified on all four of these requirements. Four other eligibility requirements were not contained in SIDPERS and were measured as part of the questionnaire administration. Column 1 of Table 12 lists these requirements. Column 2 specifies the minimum OCS performance criterion for each eligibility requirement.

OCS Disqualification Rates

Column 3 in Table 12 shows the percentage of respondents who failed to meet the minimum performance criterion for each eligibility requirement, accordingly to their own self-reports. It should be noted that self-reported performance data typically reflect a small amount of wishful thinking. That is, SAT or ACT scores in memory are often slightly higher than they really were at the time of testing. This tendency to overstate one's own past performance is a consistent but minor effect. For Table 12 data, it means that percentage disqualification rates in the third column are probably understated to a degree. The understatement, to whatever degree it occurs, will apply to all entries proportionally, however, and there is little or any jeopardy in interpreting differences among the numbers in the third column.

Table 12
OCS Eligibility Requirements Not Documented in SIDPERS

Eligibility Requirements	Performance Criterion	% Disqualified
Semester Hours	≥ 90 Hours	45.8%
SAT or ACT	≥ 850 SAT or ≥ 19 ACT	10.7%
ECLT	≥ 80	4.4%
Clean Record	No Felony Convictions	1.6%

For example, the required minimum of 90 semester hours was by far the biggest self-reported barrier to OCS qualification, resulting in the disqualification of almost half of survey respondents. We need have no doubt that this really was the biggest reason for OCS disqualification. Required minimum SAT or ACT scores posed the second biggest obstacle to OCS qualification. Lack of command of the English language and felony convictions were relatively minor obstacles. The combination of these four eligibility requirements resulted in the disqualification of 51.2% of survey respondents, leaving 48.8% who said they could qualify on all four requirements.

Estimating Overall OCS Eligibility

It will be recalled that 11.2% of E4-E8 soldiers met or exceeded the four OCS eligibility requirements contained in the SIDPERS database (ASVAB GT scores, age, APFT, and citizenship). From the questionnaire it was learned that 48.8% of surveyed soldiers qualified on the combination of semester hours, minimum SAT/ACT, command of the English language, and no felony convictions. The combination of these two data sources can be used to produce an overall estimate of OCS eligibility. When the qualifying percentage from Investigation 1 was adjusted by the qualifying percentage from Investigation 2, the result was 5.5% ($11.2\% \times 48.8\% = 5.5\%$). This is the best available estimate of the proportion of E4-E8 enlisted personnel who meet or surpass minimum (objective) OCS eligibility requirements. On the basis of 212,437 E4-E8 ARNG soldiers in the SIDPERS database, approximately 11,684 are estimated to meet all eight eligibility requirements named above.

Effects of Modifying Current Standards

Investigation 1 revealed that raising the OCS age limit offered the best opportunity for increasing the pool of qualified applicants. From the questionnaire data, it can be concluded that modification of ECLT or Clean Record requirements would produce relatively small increases in the pool of qualified OCS applicants. The effect of lowering SAT or ACT requirements would produce only a modest increase in the pool of qualified candidates, based on the results of the survey. A potentially sizeable increase, however, would result from lowering the required number of semester hours. The best estimate of this impact is 19.4%, which is the proportion of survey respondents who did not have 90 semester hours, but who did have either an Associate degree or at least 60 semester hours of college credit. Another 28.2% reported at least some college.

Personal Barriers to OCS Attendance

Questionnaire recipients were presented with a list of personal obstacles that might keep soldiers from applying to OCS (see Q. 23 in Appendix A). Respondents were asked to read through the list and indicate which listed items might keep them from applying to OCS. Table 10 summarizes the results, both for the total sample and for the 48.8% of respondents who met or exceeded the four eligibility requirements discussed above (semester hours, SAT/ACT, ECLT, and clean record).

Two things are immediately obvious from Table 10. First, responses were very similar for soldiers who met or exceeded OCS requirements (i.e., Qualifiers $N = 244$) and for all respondents in general ($N = 500$). This means that qualified candidates do not have a separate set of problems that need to be addressed. The second thing about Table 10 is that no single personal obstacle was cited by a majority of surveyed soldiers.

Accessibility. The two items most often cited as potential personal obstacles were similar in nature and probably tap the same underlying concern, the fact that OCS attendance requires an extended absence from home. Probably related to this theme was required travel either before (25.7%) or after (31.4%) commissioning, and probably related to all these was concern with jeopardy (or potential jeopardy) to a civilian job while in OCS attendance (26.3%).

Attitudinal Barriers. Not all eligible soldiers want to attend OCS. From Table 13 it can be seen that 31.8% of surveyed soldiers cited "Limited appeal of the officer role" as a reason they might not apply to OCS. On another but related question, survey respondents were asked to indicate the extent to which they agreed or disagreed with the statement: "I would like to become a commissioned officer in the ARNG." On this question, 28.2% of soldiers expressed little or no interest in becoming an officer, and another 28.0% were neutral to the idea. Some of this apathy undoubtedly represents derogation of an outcome that is unattainable. That is, to protect the ego, soldiers who suspect they are not qualified to become officers will say that becoming an officer has no appeal. Statistical analyses revealed a strong association between (self-reported) possession of eligibility requirements and interest in becoming an officer, $\chi^2(4) = 11.35, p < .05$. That is, those with officer qualifications expressed more positive attitudes toward becoming an officer than those without the necessary qualification, offering some support for the "sour grapes" explanation. Nonetheless, 23.0% of soldiers who met or surpassed minimum OCS eligibility requirements had little or no interest in becoming an officer either.

One other potential psychological barrier emerged, and that was OCS' reputation for subjecting attendees to high stress levels. This concern was cited by almost a fifth (18.7%) of respondents as a potential personal barrier to OCS attendance, and it was an equal concern to OCS-qualified soldiers as it was to the overall sample.

Table 13
Personal Barriers to OCS Attendance

Potential Personal Obstacles	Total (N = 500)	Qualifiers (N = 244)
Extended length of the OCS program	39.2%	39.8%
Separation from family or significant other	37.4%	38.6%
Limited appeal of the officer role	31.8%	30.7%
Travel requirements after commissioning	31.4%	33.2%
Loss (or jeopardy) of civilian job while in attendance	26.3%	26.1%
Travel requirements before commissioning	25.7%	24.9%
OCS has a bad reputation for subjecting attendees to high stress levels	18.7%	19.1%

OCS Awareness

Most soldiers (89.3%) were aware of OCS and its purpose, but not all soldiers were aware of all aspects of OCS, particularly its various options. More than eight of ten (82.8%) respondents reported they were aware of State Academy OCS programs. It will be recalled that the 95% confidence interval for results from this survey is $\pm 4.4\%$. Thus, based on the current survey methodology we can be at least 95% confident that the population awareness level of State Academy programs lies somewhere between 78.4% and 87.2%.

Awareness of the Federal OCS Program, and the fact that ARNG personnel can attend it along with AC soldiers, was 61.7% (confidence interval = 57.3% to 66.1%). The lowest awareness of all OCS program options was for the Accelerated State Program. Less than half (49.6%; confidence interval = 45.2% to 54.0%) of respondents were aware of this OCS option. Notice that awareness level confidence intervals for the three programs do not overlap. Thus, it can be concluded that awareness levels of the three programs differ significantly.

Soldier Preferences For OCS Program Options

Once the three OCS program options were explained (see Q.26 in Appendix A), soldiers were asked to evaluate their relative preferences among the available options by distributing 100 points across them in such a manner that the number of points awarded to each option reflected its relative appeal (see Q.27 in Appendix A). Soldiers could award as few as 0 points or as many as 100 to any particular option. The only constraint on assignment of points was that all 100 points had to be awarded. The results of this exercise appear in Table 14.

Table 14
Preference Points for Currently Available OCS Programs
(N = 470)

Program	Mean Points	SD
State Academy	33.84	29.06
State Accelerated	37.86	24.51
Federal	23.38	22.94

Respondents showed no preference between the ARNG State Academy OCS program and the Accelerated ARNG OCS program, but either of these was preferred to the Federal OCS program. Correlated-samples *t*-tests indicated a statistically significant difference between State Academy versus Federal programs, $t(469) = 7.25, p < .001$, and between Accelerated ARNG versus Federal programs, $t(469) = 8.36, p < .001$, but no difference between the State Academy versus State Accelerated programs, $t(469) < 1$.

OCS Recruitment Efforts

More than two-thirds (68.4%) of surveyed soldiers agreed that an active OCS recruitment program would attract more OCS applicants, and only 9.0% disagreed. When asked if anyone in their unit/chain of command actively recruits for the OCS program, however, only 37.4% of surveyed soldiers replied affirmatively, while 62.6% indicated that either no recruitment took place in their units or if it did they were unaware of it.

Approximately half (47.7%) of surveyed soldiers said that the ARNG needs better incentives to attract qualified OCS candidates. Of those who said better incentives were needed, 209 soldiers responded to a follow-up question and recommended specific incentives to attract qualified OCS candidates. A content analysis of these responses produced the list of ten most frequently recommended incentives listed in Table 15.

A commissioning bonus (or some near-equivalent directly relating to money) was the # 1 recommendation. The # 2 recommendation was student loan repayment, which some would argue is just another way of saying more money. Of the soldiers who volunteered recommendations ($N = 209$), more than half ($N = 119$) cited money in either the form of a commissioning bonus, better pay, student loan repayment, or tuition payments of some kind.

The third most recommended measure for attracting more OCS candidates was by boosting awareness of OCS and its training options, especially through improved recruiting and greater availability of information. This recommendation is consistent with earlier responses in the survey, where soldiers indicated relatively low awareness of OCS opportunities (especially the Accelerated program), and a lack of awareness of any ongoing recruitment efforts in their home units.

Table 15
Recommended Incentives for Attracting Qualified OCS Candidates
 (N = 209)

Rank	Recommended Incentive	%
1	Commissioning bonus; Better benefits; Better pay; More money	36.8%
2	Student loan repayment; Tuition payment; Education benefits	20.1%
3	Increase OCS awareness Improve recruiting; Increase available info	10.0%
4	Don't make senior NCOs start over from the bottom along with E4s; Streamline OCS for senior NCOs; Use direct commissions; Don't make enlisted soldiers forfeit enlistment bonuses and other benefits to enroll in OCS; Show more respect to OCS attendees, and to newly commissioned officers	9.1%
5	Choice of duty station or option to stay in home unit after OCS	7.2%
6	Choice of military schools; Support to attend civilian graduate school	6.7%
7	Shorter OCS; Less time away from family; OCS closer to home	3.8%
8	Waiver of 90 semester hour requirement	3.3%
9	Raise or eliminate the age limit	2.4%
10	More troop leadership opportunities after commissioning	2.4%

The fourth recommendation in Table 12 concerns personal respect and the importance to NCOs of preserving hard-earned status and career benefits. These feelings were expressed with conviction and even with eloquence. One survey respondent wrote, "Soldiers don't mind some discipline, but putting us back through basic after 10 years of service is degrading." Another added, "An E7 being treated like an E3 or E4 is degrading. Initial Basic Training is great, but I've found I learn just as well with positive reinforcement." Another soldier offered this practical and specific recommendation: "Adjust officer pay scales to reflect enlisted NCO time, so that a senior NCO with 7 years of NCO service would become a 2LT with 7 years of service (or a 1LT with 5 years) rather than a 2LT with 0 years of service."

About 14% of survey respondents who made recommendations cited "choice" in one guise or another. That is, they wanted more choice in determining the direction of their career post-OCS. Choice of duty station after OCS, including the freedom to choose to stay in one's home unit, was mentioned often, along with the choice of military schools and the freedom to choose to continue one's civilian education (with financial support) after OCS commissioning.

Several soldiers recommended either shorter OCS programs or programs closer to home, permitting less time away from family. Waiver of the 90-semester-hour requirement and either raising or altogether eliminating the OCS age limit also made the list of top 10 recommendations. Number 10 on the list was more troop leadership opportunities after commissioning. This recommendation was advanced by five NCOs who felt that going to OCS and obtaining an officer's commission would result in a desk job assignment and loss of direct contact with troops, a fate with little appeal for these particular individuals.

Evaluation of Previously Recommended Proposals

Endorsed Proposals. After survey respondents were asked to produce their own recommendations for attracting more OCS candidates, they were presented with a list of previously advanced proposals (see Q.37, Appendix A) and asked to pick the proposals with the greatest potential for attracting more OCS candidates. Three proposals, listed in Table 16, received majority endorsement from survey participants and a fourth was endorsed by almost half of participating soldiers. The two most enthusiastically endorsed proposals concerned student loan repayment and commissioning bonuses. These two proposals received approximately equal levels of endorsement. The next two proposals also shared a common theme: special consideration for senior NCOs either in OCS or at the time of commissioning.

Each proposal in Table 16 was examined more closely to determine if soldiers at different pay grades were more likely to endorse or reject them. Endorsement ratings of all four proposals in Table 16 were significantly influenced by pay grade. The first two proposals, concerning student loan repayments and commissioning bonuses, were more popular among E4 and E5 soldiers.

Table 16
Proposals Endorsed by Survey Participants
($N = 491$; 95% Confidence Interval = $\pm 4.4\%$)

Proposal	%
Repay student loans for officers	77.0%
Award a commissioning bonus	73.1%
Offer streamlined program for senior NCOs	53.6%
Commission senior NCOs as 1LTs after OCS	47.5%

Figure 1 shows a stepwise pattern for the student loan repayment proposal, with greater endorsement at lower pay grades and progressively less endorsement among senior NCOs. (Bar height in Figure 1 is directly proportional to degree of endorsement. Due to low numbers, E7 and E8 pay grades were combined into a single E7 category.) The pattern in Figure 1 was statistically significant when tested by a trend for linearity (SPSS, 1999), $F(1,483) = 4.90$, $p < .05$, which is a way of determining if an observed pattern of data can be modeled successfully as an ascending or descending linear (i.e., straight-line) function (Neter, Wasserman & Whitmore, 1978). In the present instance, a significant test result confirms that as pay grade increases, endorsement of the student loan repayment proposal decreases.

Awarding a commissioning bonus also found more favor among lower pay grades, $F(1, 483) = 4.67$, $p < .05$, as determined by a test for linearity. Bonuses were uniformly popular among E4-E6 pay grades, but experienced a precipitous drop-off in ratings among E7 and E8 pay grades (Figure 2).

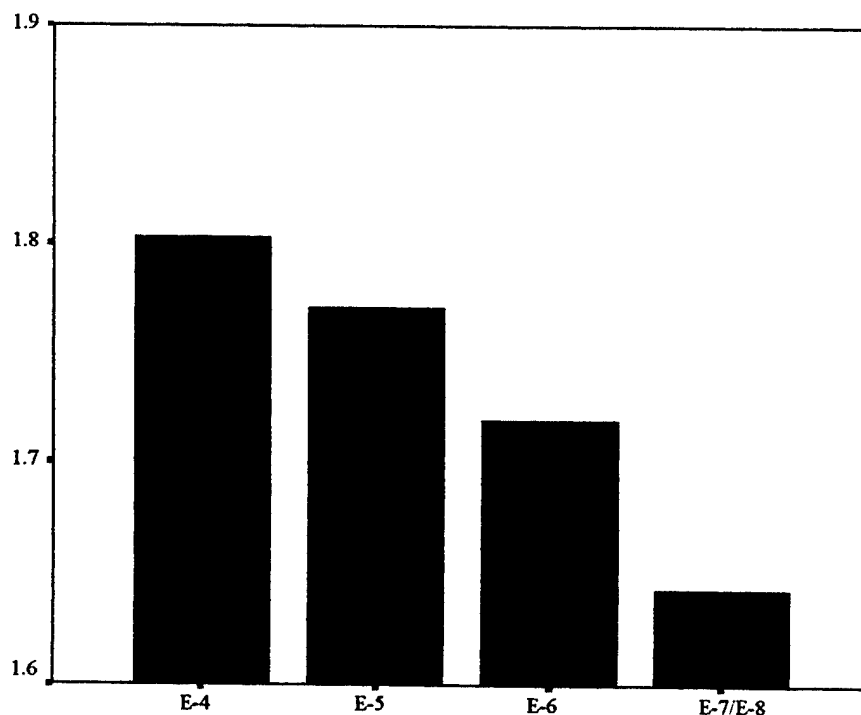


Figure 1. Endorsement of Student Loan Repayment Proposal by Pay Grade.

The last two proposals in Table 16, concerned with developing a streamlined OCS program for senior NCOs and with commissioning senior NCOs as 1LTs after OCS, produced an ascending stepwise pattern of endorsement, with progressively greater endorsement from higher NCO levels. Figures 3 and 4 graphically depict the obtained patterns. Tests of linearity for the two questions, streamlining and 1LT commissioning, respectively, were, $F(1, 483) = 33.84, p < .001$, and, $F(1, 483) = 15.86, p < .001$.

Rejected Proposals. Six of the 10 proposals submitted to survey participants for evaluation did not receive majority endorsement. Rejection levels for these unsuccessful proposals are presented in Table 17. Proposals at the top of Table 17 were rejected soundly. The least popular notion of all was the proposal to eliminate SAT/ACT requirements. Not far behind in lack of popularity was the proposal to eliminate college degree requirements for promotion to the rank of CPT. Somewhat more acceptable (though still rejected by a majority of surveyed soldiers) was the proposal to reduce required semester hours from 90 to 60. Unlike proposals in Table 16, five of the six proposals in Table 17 were not significantly influenced by soldier pay grade. For example, soldiers uniformly rejected proposals to eliminate SAT/ACT requirements and to remove college degrees as requirements for promotion to CTP, and they rejected these proposals across the board, regardless of pay grade.

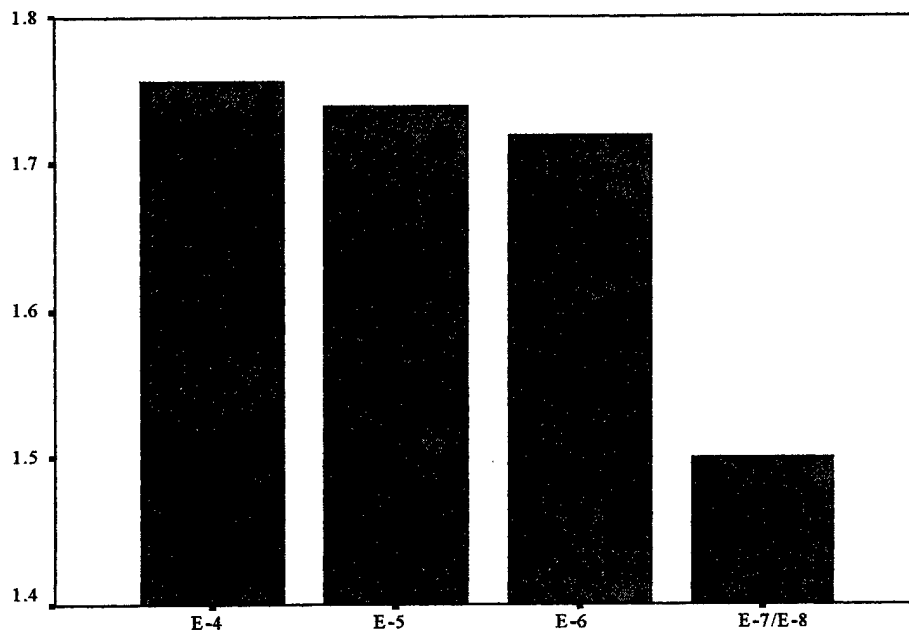


Figure 2. Endorsement of Commissioning Bonus Proposal by Pay Grade.

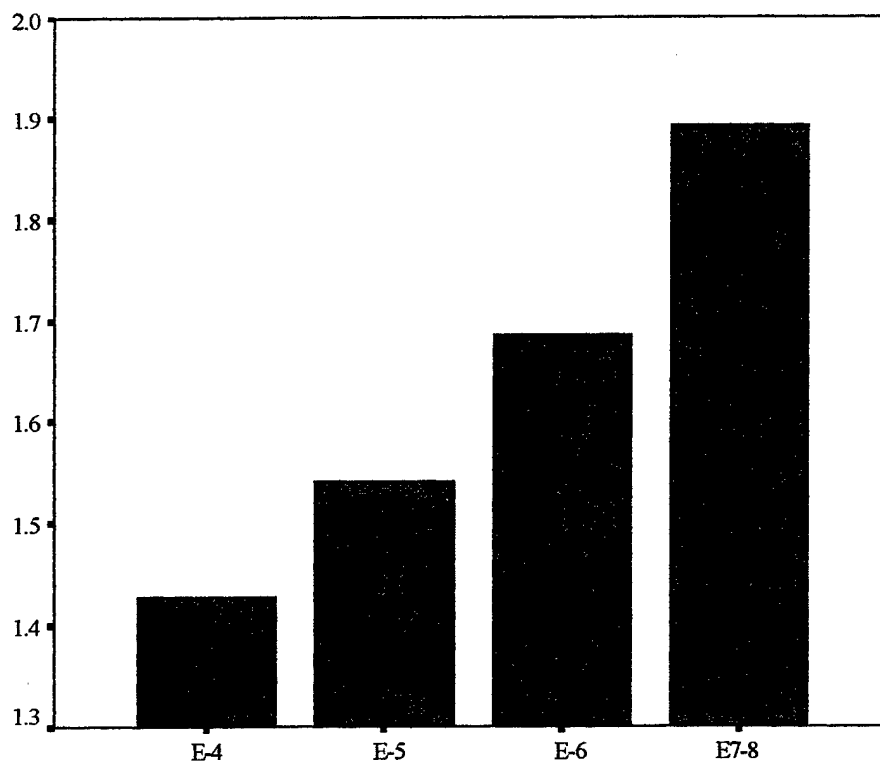


Figure 3. Endorsement of a Streamlined OCS Program for Senior NCOs.

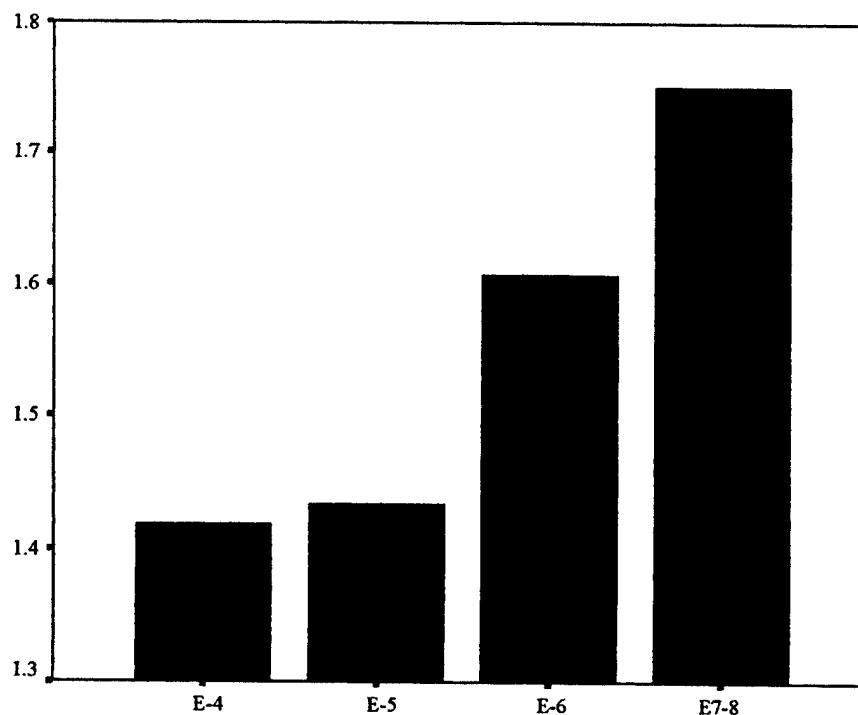


Figure 4. Endorsement of the Proposal to Commission NCOs as 1LTs After OCS.

The one proposal in Table 17 that was influenced by pay grade [$F(1, 483) = 14.40, p < .001$] concerned whether education of unit leaders about OCS opportunities would attract more OCS applicants. Although this proposal was rejected overall by a 2-to-1 majority, rejection was even more likely at higher NCO levels.

Table 17
Proposals Rejected by Survey Participants
($N = 491$; 95% Confidence = $\pm 4.4\%$)

Proposal	% Rejection
Eliminate SAT/ACT requirement	85.1%
Reduce Time-in-Grade criteria after OCS	80.7%
Eliminate college degree requirement for CPTs	79.4%
Establish on line degree programs for LTs	71.3%
Educate unit leaders about OCS opportunities	68.8%
Reduce required semester hours from 90 to 60	55.8%

Discussion and Recommendations

Based on data from both investigations, it can be concluded that relatively few E4-E8 ARNG soldiers meet all OCS eligibility requirements. The best estimate of the proportion of soldiers who qualify on every requirement is 5.5%, or 1 soldier in 18. It is instructive, moreover, to note that even if this estimate is in error by as much as 25% in either direction, the true percentage would

still lie between 4.125% and 6.875%. Even the topmost point (6.875%) in this plus or minus 25% error band would still mean that only 1 in 15 ARNG E4-E8 soldiers meet all OCS requirements. More likely, the obtained estimate of 5.5% is an overstatement because this figure accounts only for objective, easily measurable performance requirements. It fails to capture the influence of personal, psychological, informational, and motivational obstacles that must be surmounted even after the nine objective eligibility requirements addressed in this investigation are met.

The situation is one of demand exceeding supply. More officers are needed, and OCS-eligible candidates are scarce. Three solutions suggest themselves: (1) focus recruitment efforts so they are targeted specifically to the 1 soldier in 18 who is OCS-eligible, (2) improve incentives, so that when the 1 soldier in 18 is identified, he or she can be offered inducements that will be sufficient to redirect career aspirations towards OCS, and (3) revise and revamp the eligibility criteria in ways that will expand the pool of eligible candidates without compromising current quality standards.

Targeted Recruitment

With only 1 soldier in 18 eligible for OCS, standard (blanket) recruitment efforts are 94.5% misplaced. To achieve a better return on recruitment efforts, recruitment should be targeted to eligible soldiers, and preferably eligible soldiers with pre-existing inclinations to become officers.

Recommendation # 1: Develop a model for identifying qualified soldiers who are positively inclined toward the officer role. A first step in this direction can be accomplished using the data collected in this investigation. The developed model can then be applied to SIDPERS records to identify recruitment candidates who possess the combination of desired eligibility qualifications and positive attitudes toward the officer role. Each time new data are collected, they can be fed into the model to iteratively improve and enhance it. In light of the information from the present investigation, blanket recruitment is no longer defensible. Targeted recruitment is essential given the low incidence (5.5%) of qualified soldiers and possible lack of interest among qualified candidates.

Recommendation # 2: Consider alternative recruitment and information dissemination channels, such as direct mail and a new, custom-designed web site. Soldiers in the survey made it clear they are not currently being made aware of OCS opportunities. Improved recruitment and greater availability of information on the program was one of the top three most frequently mentioned recommendations for attracting more qualified OCS candidates. Sixty-eight percent of surveyed soldiers believed an active OCS recruitment program would attract more OCS applicants, and only 9% disagreed. Almost two-thirds of soldiers in the survey say OCS recruitment efforts are not currently taking place in their units, or if they are they are unaware of them.

Recommendation # 3: Educate troops concerning OCS opportunities. Awareness of OCS program options leaves much to be desired. Fewer than half of surveyed soldiers were aware of the Accelerated ARNG OCS program. This is especially unfortunate in view of the fact that once the Accelerated program was explained to soldiers, it was rated as favorably as the traditional

State Academy program alternative. Moreover, only 61% of survey respondents knew that ARNG soldiers could attend the Federal program with AC troops. On the other hand, two-thirds of soldiers cautioned that efforts to educate unit leaders about OCS opportunities would not attract more OCS candidates. Soldiers seemed to be saying they needed and wanted more information about OCS, but expressed little confidence it would come through unit leadership. It may be time to explore new dissemination channels.

Improved Incentives

Survey respondents expressed clear preferences among recently proposed steps designed to attract more OCS applicants. Proposals to repay student loans and award a commissioning bonus were overwhelmingly endorsed by survey respondents, especially by younger soldiers.

Recommendation # 4: Consider paying a commissioning bonus, or boosting the current bonus if one is already offered. Monetary incentives promise to be especially effective among younger soldiers.

Recommendation # 5: Consider a college loan subsidy for OCS graduates. OCS graduates without college degrees should be encouraged (financially) to immediately and aggressively pursue degree requirements.

Recommendation # 6: Listen to soldier advice about which recommendations will not work. Sometimes popular sentiment is wrong, but more often ignoring it results in misspent efforts. To that end, it should be noted that surveyed soldiers resoundingly rejected the following proposed steps for attracting more OCS applicants: (1) elimination of SAT/ACT requirements, (2) reduction of time-in-grade criteria after OCS, (3) elimination of college degree requirements for promotion to CPT, (4) establishment of on line degree programs for LTs, and (5) education of unit leaders about OCS opportunities. Soldiers were opposed also to the proposal to reduce required semester hours, but their opposition to this suggestion was not as strong as it was for the five proposals above.

Revised Eligibility Criteria

The message that soldiers seem to be sending is that officer quality, especially the quality of their formal educations, must not be compromised. Soldiers, for example, are unwilling to support proposals that lower or eliminate SAT/ACT requirements or that eliminate college degree requirements for promotion to CPT. The ARNG can justly take pride in this uncompromising attitude on the part of its enlisted personnel. Obviously, quality is their first consideration. On the other hand, eligibility criteria can be revised and revamped in ways that will significantly expand the pool of OCS-eligible soldiers without compromising officer standards. In fact, some of these changes may very well enhance the overall quality of OCS-generated officers.

Recommendation # 7: Raise the OCS age limit from 30 to 35. The current age limitation creates a severe shortage of eligible OCS candidates. Sixty percent of E4-E8 soldiers are age-ineligible, including almost all of those with the most experience. Less than 1% of senior NCOs

(E7 and above) are age-eligible. The average age of OCS prime candidates (E4–E8) exceeds the maximum permissible age for OCS admission by approximately 2.5 years. The policies that initially established current age limits should be critically re-examined in light of contemporary demographic trends, both in the general population and in the ARNG. People are living longer, healthier lives, extending their careers well past traditional limits and often developing second and even third careers after ostensible retirement. The ARNG is potentially sacrificing its most talented, experienced, and devoted personnel through a policy that excludes all but its youngest members from OCS. Raising the OCS age limit from 30 to 35 would increase the eligible recruitment pool by more than 50%.

Recommendation # 8: Combine the increased age limit with a focused examination of NCOs, especially those newly qualified by the age increase. These individuals are the repository of an enormous reservoir of talent, knowledge, and resourcefulness. Most of them are effective leaders already or they wouldn't be NCOs, and many of them are motivated to be officers but have been held back by age, lack of college credits, or what they perceive to be degrading elements in the OCS training process. Consider developing a streamlined OCS program for these individuals that will deliver a level of status and sense of satisfaction upon commissioning commensurate with their prior achievements and level of self-esteem.

Recommendation # 9: Re-examine the proposal to reduce required semester hours from 90 to 60. Although this proposal did not find majority endorsement (44% endorsement; 56% rejection) among surveyed soldiers, it is possible that it was lumped in with other proposals (such as elimination of college degree requirements) that were viewed as more serious threats to current standards of officer quality. Clearly, the current 90-semester-hour requirement is a major obstacle to OCS attendance. Almost half of surveyed soldiers could not meet the current minimum of 90 semester hours. Reducing the number of required hours from 90 to 60 would expand the OCS eligibility pool by at least 11%. Moreover, reducing the requirement to 60 hours or an Associate degree would enlarge the pool by 19%. It is well to keep in mind that the proposal in no way compromises the ultimate education requirement (a college degree), but rather postpones the time when college credits must be acquired. It is unlikely that the proposed change would undermine OCS integrity, but it certainly would heighten the need to push OCS graduates toward subsequent college graduation. Thus, a reduction in minimum required semester hours, if it is adopted, should be combined with a program of post-OCS tuition support and encouragement to complete the college degree.

Recommendation # 10: Discover why the Officer role fails to appeal to 28% of ARNG E4–E8 soldiers. Is this a usual and desirable state of affairs, or is it an unnecessary and inadvertent by-product of current training and indoctrination policies and procedures? Is it a permanent attitude? Or is it an attitudinal façade amenable to change? Is this an attitude that a person brings with him or her to the Army, or is it formed at some time during the soldiering process? Some of this attitude undoubtedly represents “sour grapes,” the derogation of realistically unattainable outcomes, but we know from the results of this investigation that some of it doesn't. We know that a substantial proportion of soldiers who meet or exceed OCS eligibility requirements nonetheless have little or no interest in becoming officers, even though they have elected to be members of ARNG. They have chosen a particular career path and then halfway down that path

deliberately decided to deny themselves admission to top management, even though they seem ostensibly qualified. We know that part of this reluctance is rooted in the belief among some NCOs that OCS is inherently degrading, and that proud soldiers with long track records of accomplishment find degradation unacceptable. The data suggest this isn't the whole story, however. The data tell us that a substantial proportion of qualified soldiers in the present investigation expressed little or no interest in the officer role. What we don't understand very well is why this is the case and what, if anything, can or should be done about it. Understanding this attitude is particularly important with respect to E4 soldiers who, by virtue of sheer numbers alone, represent the principal source of future OCS candidates.

References

- Box, G. E. P., Hunter, W. G. & Hunter, J. S. (1978). *Statistics for Experimenters*. New York: John Wiley & Sons.
- Dillon, K. A. (1999). *Manning the Army After Next (AAN) force: Critical examination of the officer accessions system* (Strategy Research Project). Carlisle Barracks, PS. U.S. Army War College. (ADA364547)
- Gilman, H. (2001). OCS Study (Information Paper). Arlington, VA: NGB-ART-I
- Hays, W. L. *Statistics*. New York: Holt, Rinehart and Winston.
- Headquarters, Department of the Army. (1983). *Officer Candidate School*. (Army Regulation 40-501). Washington, DC: Author.
- Headquarters, Department of the Army. (1985). *State Military Academies*. (Army National Guard Regulation 351-5). Washington, DC: Author.
- Headquarters, Department of the Army. (1995). *Standards of Medical Fitness*. (Army Regulation 40-501). Washington, DC: Author.
- Headquarters, Department of the Army. (2002a). *Army Training Requirements and Resources System (ATRRS)* [On-line]. Available: <https://www.atrrs.army.mil/info/atrrsinfo.asp>.
- Headquarters, Department of the Army. (2002b). *Standard Installation/Division Personnel System* [On-line]. Available: <https://www.perscom.army.mil/>.
- Neter, J., Wasserman, W. & Whitmore, G. A. (1978). *Applied Statistics*. Boston, MA: Allyn and Bacon.
- Smith, M. D. (1996). *Impact of a Battalion-level peacekeeping mission on the sponsoring Army National Guard Division*. (Research Report 1698). U.S. Army Research Institute for the Behavioral and Social Sciences. (AD A347 216)
- SPSS Base 10.0 User's Guide (1999). Chicago, IL: SPSS, Inc. Author.

Appendix A
Mail Questionnaire

SECTION 1: DEMOGRAPHIC QUESTIONS.

(These first few questions will allow us to divide questionnaire data into different groups for statistical analysis purposes.)

1) What is your current pay grade? (Check one)

<input type="checkbox"/> E4	<input type="checkbox"/> E7
<input type="checkbox"/> E5	<input type="checkbox"/> E8
<input type="checkbox"/> E6	<input type="checkbox"/> Other (please specify): _____

2) What is your age? _____

3) Gender? (Check one)

☐ Male
☐ Female

4) Race/Ethnicity? (Check the one that most closely applies.)

☐ Asian
☐ Black or African American
☐ Hispanic, Latino or Spanish origin
☐ Native Alaskan or American Indian
☐ Native Hawaiian or Pacific Islander
☐ White
☐ Other: _____

5) Have you ever served in the Active Component?

☐ Yes (If "yes," how long? _____ Years and _____ Months)
☐ No

5a) How long have you served in the Reserve Component (USAR and/or ARNG)?

_____ Years and _____ Months

6) Time in current duty position? _____ Years and _____ Months

7) Primary MOS? _____

7a) Are you presently DMOSQ? ☐ Yes ☐ No

8) Highest level of civilian education completed? (check one)

- ☐ 11th grade or lower
- ☐ High school equivalency
- ☐ High school diploma
- ☐ Some college
- ☐ Associate degree
- ☐ At least 60 semester hours of college credits
- ☐ At least 90 semester hours of college credits
- ☐ Bachelors degree
- ☐ Some graduate courses
- ☐ Masters degree
- ☐ Ph.D. or other higher degree

9) Are you a Part-time or Full-time soldier?

- ☐ Part-time
- ☐ Full-time

10) At this time, which of the following best matches your military career plans?

- ☐ I plan to stay in my current ARNG unit
- ☐ I plan to transfer to another unit
- ☐ I plan to transfer to active duty
- ☐ I plan to leave the ARNG and focus on my civilian career

SECTION 2: OCS BACKGROUND QUESTIONS
--

11) Are you aware of OCS and its training purpose?

- ☐ Yes
- ☐ No
- ☐ Not sure

12) Just to make sure we're all on the same topic, let's define the term. OCS stands for Officer Candidate School, a career development program that allows enlisted personnel to receive training leading to an officer's commission. There are two forms of OCS; the Federal OCS program for either Active Component or Reserve Component soldiers, and the State Academy OCS program for Reserve Component soldiers. Does this sound familiar?

- ☐ Yes, I am aware of OCS (Continue to the next question)
- ☐ No, this is the first I have heard of OCS (Skip to Q. 20)

13) Before reading Question 12 above, did you know that ARNG enlisted soldiers could enroll in OCS through the State Academy program?

- ☐ Yes (Continue to the next question)
- ☐ No (Skip to Q. 20)

14) In the time that you have been in the ARNG, have you ever thought about applying for OCS and becoming an officer?

☐ Yes (Continue to the next question)
☐ No (Skip to Q. 19)

15) When you considered applying for OCS, did you go so far as to begin the formal application process?

☐ Yes (Continue to the next questions)
☐ No (Skip to Q. 20)

16) When you started your OCS application process, did you go through all the steps and complete the application?

☐ Yes (Continue to the next question)
☐ No (Skip to Q. 20)

17) Were you accepted for OCS enrollment?

☐ Yes (Continue to the next question)
☐ No (Skip to Q. 20)

18) Did you enroll in OCS?

☐ Yes (Skip to Q. 20)
☐ No (Skip to Q. 20)

19) In the time that you have been in the ARNG, why have you never thought about applying to OCS and becoming an officer?

SECTION 3: OCS ELIGIBILITY CRITERIA

20) In this section, your task is to ASSUME that you have just decided to apply for OCS admission. You haven't filled out any of the required forms or filed any of the necessary papers, but you have definitely decided to go for it. Naturally, you are experiencing some degree of apprehension about whether you will be accepted to the program. To help you to better evaluate your prospects, we have listed below the principal eligibility requirements for OCS enrollment.

To the left of the list of requirements, you will find two columns. Check "Yes" to any requirement that you feel reasonably confident you would meet, if you submitted your OCS application today. Check "No" if you feel you probably would not meet the requirement. (If you check "Yes" to every item, it means that in your judgment you could meet every eligibility requirement on the list.) If you're uncertain whether you could meet

a particular eligibility requirement, simply use your best judgment. Most people have an uncanny ability to accurately estimate their own capabilities.

Could I Pass This Eligibility Requirement Today?

Yes	No	
_____	_____	a) United States Citizenship
_____	_____	b) ASVAB GT score of 110 or higher
_____	_____	c) Ability to pass an APFT test with a score of 180 or above
_____	_____	d) SAT score of at least 850 or an ACT score of at least 19
_____	_____	e) 90 or more semester hours of college study towards a degree
_____	_____	f) Age of at least 18 years but not more than 29 years
_____	_____	g) Recent (within 6 months) physical exam
_____	_____	h) No felony convictions
_____	_____	i) A score of 80 or higher on the English Comprehension Level Test [ECLT] if primary language is not English

21) Now go back and look at the number of "Yes" versus "No" check marks in the question above. If all your checks are in the "Yes" column, or if all but one check is in the "Yes" column, skip to Q. 23. Otherwise, continue to Q. 22.

22) Look again at the eligibility requirements that you checked "No" in Q. 20, and take a moment to rank order them in terms of the degree of difficulty they would pose to your OCS acceptance if you applied today. Place a "1" beside the eligibility requirement that would be **most** likely to block your acceptance, a "2" beside the item that would be next most likely, and so on until you have ranked all the "No" items.

23) Personal obstacles also can keep soldiers from applying to OCS. Below, we've compiled a list of such possible obstacles. **In Column A**, please check each item that might keep you from applying to OCS. **In Column B**, please rank order the items you checked in Column A in terms of their overall importance. That is, assign a "1" to the item that would be your biggest concern, a "2" to the item that would be your next biggest concern, and so on until you have ranked every item that you checked in Column A.

Col A Col B

_____	_____	Loss or reduction of pay relative to my current pay
_____	_____	Loss or reduction of benefits other than pay
_____	_____	Separation from family or significant other
_____	_____	Extended length of the OCS program
_____	_____	Travel requirements associated with OCS attendance
_____	_____	Travel requirements after commissioning
_____	_____	Loss (or jeopardy of loss) of civilian job while in attendance
_____	_____	Limited appeal of the officer role
_____	_____	2LT would be a step backward for me, career-wise
_____	_____	OCS has a bad reputation for subjecting attendees to unnecessary stress
_____	_____	OCS has other bad reputation: (specify:) _____
_____	_____	OCS is considered a second-rate means to achieving a commission
_____	_____	OCS officers have limited promotion potential
_____	_____	Other (specify:) _____
_____	_____	Other (specify:) _____
_____	_____	Other (specify:) _____

24) In the question above, if you checked the second item "Loss or reduction of benefits other than pay," which benefits would be most in jeopardy in your particular case?

25) Check the extent to which the following statement applies to you: I would like to become a commissioned officer in the ARNG. (Check one)

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

26) ARNG enlisted personnel have three options for OCS training. These options are listed and briefly explained below. Place a check mark beside each option that you were already aware of before filling out this questionnaire.

- ☐ The Federal OCS Program, which allows ARNG soldiers to attend OCS with Active Duty soldiers at Ft. Benning over 14 consecutive weeks.
- ☐ The State Academy program, which allows ARNG soldiers to complete OCS in three phases over 14 months: 1) a 2-week ADT period, 2) twelve months of weekend training assemblies at the State Academy in lieu of unit drills, and 3) a second 2- week ADT period.
- ☐ The Accelerated ARNG program, which requires full-time attendance for 8 weeks, with training occurring at two and in some instances three different locations.

27) Your next task is to evaluate the three OCS training options listed above, in terms of their appeal to you, personally. Assume that you have already applied and been accepted to OCS and you're now faced with choosing the program that will be best for you. To indicate your relative preferences, we ask that you distribute 100 merit points across the available options, so that the number of points awarded to each option reflects its relative appeal. You can give as many or as few points as you wish to each option, just so long as the number of points totals 100.

- ☐ The Federal Program over 14 consecutive weeks
- ☐ The ARNG State Academy Program over a 14- month time period
- ☐ The Accelerated ARNG program with full-time attendance for 8 weeks
- 100 Total Merit Points

28) In your opinion, does the ARNG need better incentives for attracting qualified OCS candidates?

- ☐ Yes (Continue to the next question)
- ☐ No (Skip to Q. 30)

29) What incentives would it take to attract qualified OCS candidates?

30) Please rate this statement: An active OCS recruitment program would attract more OCS applicants.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

31) Does anyone in your unit/chain of command actively recruit for the OCS program?

- ☐ Yes
- ☐ No
- ☐ Don't know

32) OCS is vital training for NCOs who wish to become officers.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

33) Most OCS training is redundant for NCOs.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

34) An alternative to OCS is needed for NCOs who wish to become commissioned officers.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

35) The time required to attend OCS would create difficulty with my employer.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

36) Officer slots are mostly reserved for full-time staff.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

37) Several recent proposals for attracting more OCS applicants are listed below. In Column A, please check each proposal that you think would be effective, and then in Column B, pick the three proposals with the greatest potential for making a difference and rank order them from "one" to "three."

Col A Col B

- | | | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | Repay student loans for officers |
| <input type="checkbox"/> | <input type="checkbox"/> | Reduce required college credit hours enrollment criteria from 90 to 60 |
| <input type="checkbox"/> | <input type="checkbox"/> | Award a commissioning bonus |
| <input type="checkbox"/> | <input type="checkbox"/> | Eliminate SAT/ACT requirement for State OCS |
| <input type="checkbox"/> | <input type="checkbox"/> | Establish on line degree programs for LTs |
| <input type="checkbox"/> | <input type="checkbox"/> | Offer a "streamlined" OCS program for senior NCOs |
| <input type="checkbox"/> | <input type="checkbox"/> | Commission senior NCOs as 1LTs after OCS |
| <input type="checkbox"/> | <input type="checkbox"/> | Educate unit leaders about OCS opportunities |
| <input type="checkbox"/> | <input type="checkbox"/> | Reduce Time-in-Grade criteria after OCS |
| <input type="checkbox"/> | <input type="checkbox"/> | Eliminate college degree requirement for promotion to CPT |

Again, thank you for participating in our OCS survey. When you have reviewed your responses for accuracy and completeness, please fold the questionnaire in half, insert it in the enclosed postage-paid envelope, and drop it in the mail at your earliest convenience.

Appendix B

State (or Territory) of Residence for 1) all ARNG Eligible and Potentially Eligible (N = 47,186) E4-E8 Personnel, 2) a Random Sample of N = 2,500 Eligible and Potentially Eligible E4-E8 Soldiers, and 3) All Surveyed Soldiers (N = 379) with Legible Postmarks

State	Sample Size		
	N = 47,186	N = 2,500	N = 379
	%	%	%
AK	0.3	0.3	0.4
AL	2.4	2.7	1.6
AR	1.8	1.4	0.2
AZ	1.0	1.0	0.8
CA	4.0	3.6	3.2
CO	1.1	1.1	1.2
CT	1.4	1.4	0.8
DC	0.0	0.0	0.2
DE	0.4	0.6	0.6
FL	0.8	0.8	0.4
GA	1.8	1.8	1.0
GU	0.1	0.1	0.0
HI	0.7	0.7	0.4
IA	3.1	3.0	2.6
ID	1.2	1.0	1.0
IL	3.7	4.8	2.6
IN	3.4	3.0	1.0
KS	1.7	1.6	1.8
KY	2.3	2.5	0.8
LA	3.4	3.2	2.8
MA	2.4	2.1	1.0
MD	1.7	1.7	1.4
ME	0.8	0.9	0.0
MI	2.8	2.4	1.6
MN	4.3	4.3	3.0
MO	2.7	2.5	2.0
MS	2.1	2.4	2.2
MT	0.9	0.8	0.4

Appendix B (Cont.)

State (or Territory) of Residence for 1) all ARNG Eligible and Potentially Eligible (N = 47,186) E4-E8 Personnel, 2) a Random Sample of N = 2,500 Eligible and Potentially Eligible E4-E8 Soldiers, and 3) All Surveyed Soldiers (N = 379) with Legible Postmarks

	Sample Size		
State	N = 47,186	N = 2,500	N = 379
	%	%	%
NC	1.8	1.6	0.8
ND	1.7	2.0	2.2
NE	1.6	1.4	1.0
NH	0.6	0.7	0.6
NJ	1.5	1.3	0.8
NM	0.6	0.5	1.0
NV	0.5	0.3	0.4
NY	3.2	3.4	1.4
OH	4.5	4.7	4.6
OK	2.1	2.0	1.4
OR	2.1	2.4	2.6
PA	5.6	5.2	4.0
PR	0.3	0.2	0.2
RI	0.6	0.5	1.0
SC	1.9	2.0	0.4
SD	1.7	1.5	1.8
TN	2.3	2.1	1.2
TX	3.7	4.3	4.4
UT	1.2	1.3	1.2
VA	2.0	2.0	1.4
VI	0.1	0.0	0.0
VT	0.7	0.9	1.4
WA	2.0	2.2	1.6
WI	3.4	4.0	3.2
WV	1.3	1.3	1.4
WY	0.5	0.5	0.6
TOT	100.0	100.0	100.0